



# Ultratop®

**High-Performance,  
Quick-Setting, Self-Leveling  
Concrete Topping**



## DESCRIPTION

*Ultratop* is a self-leveling, self-drying topping based on High-Hydrated Cement Technology (HCT™) that is specially formulated for fast-track resurfacing of interior horizontal wear surfaces.

## FEATURES AND BENEFITS

- Formulated with HCT technology for fast-track resurfacing of horizontal wear surfaces
- Very fluid self-leveler; easily installed from 1/4" to 2" (6 mm to 5 cm) in a single lift. Quickly hardens within 2 to 3 hours and is ready to accept stains, sealers or coatings within 24 hours.
- Provides the ultimate palette for designing unique, artistic floors
- Offers an unlimited range of interesting effects when mixed with integral colorants and unique materials such as glass, aggregates and metals
- *Ultratop* White maximizes the brilliance of architectural stains and integral coloring agents.
- *Ultratop* Natural Gray ideally represents the color of a natural gray concrete floor.
- Features a compressive strength greater than 2,500 psi (17,2 MPa) after 1 day and 6,100 psi (42,1 MPa) after 28 days
- *Ultratop* is suitable for diamond polishing. For diamond polishing guidelines, reference MAPEI's Technical Bulletin 010611-TB, "Polishing *Ultratop*."

## INDUSTRY STANDARDS AND APPROVALS

LEED v3 Points Contribution

LEED Points

MR Credit 5, Regional Materials\* .....Up to 2 points

*\* Using this product may help contribute to LEED certification of projects in the category shown above. Points are awarded based on contributions of all project materials.*

## WHERE TO USE

- Suitable for retail stores, mall corridors and entrances, showroom floors, restaurant floors, hotel lobbies and loft apartments
- For applications where a unique, creative floor is desired
- For industrial warehouse floors and loading docks subject to continual vehicular and foot traffic

## LIMITATIONS

- Do not install over substrates containing asbestos.
- Do not install over particleboard, chipboard, hardboard (Masonite), Lauan panels, metal, gypsum-based patching materials or any other dimensionally unstable materials.
- *Ultratop* accepts a wide variety of acid-based, acrylic-based and colloidal-based stains; penetrating and topical sealers; and epoxy and urethane coatings. Due to the wide variety of products available, always perform mockups to verify optimal results and timing for staining, sealing or coating, as well as to verify compatibility between *Ultratop*, colorants and other materials.



- Before application of *Ultratop*, always properly prepare surface and prime with MAPEI's *Planibond*® EBA sand broadcast method (see the respective Technical Data Sheet [TDS] for details).
- Use *Ultratop* at a minimum thickness of 1/2" (12 mm) when dealing with rolling dynamic loads such as pallet trucks, forklifts and other rubber-wheeled vehicles.
- *Ultratop* is for use only in dry, interior areas. For exterior use or for areas subject to prolonged exposure to moisture, use an exterior-rated MAPEI screed mortar.
- Use only between the temperatures of 50°F and 95°F (10°C and 35°C). In cool conditions, follow cold-weather application guidelines from the American Concrete Institute, and for temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- Always provide for expansion and control joints where specified by an engineer. Do not bridge existing expansion or control joints. Failure to honor existing joints may lead to the formation of hairline or larger cracks in the topping, as well as disbonding of the topping. Where control or expansion joints do not exist in the substrate, provide for them in the system.
- Always use caulking or foam tape to round off any sharp corners that protrude into the room receiving the topping, as well as column bases, supports and equipment pedestals, etc., including the use of foam tape around the perimeter of the pour.
- The color of *Ultratop* Natural Gray may be subject to subtle smoothing marks or color differences caused by product dripping from placing and smoothing equipment. This is a normal aspect of colored materials and can be addressed with proper placement techniques.
- For concrete substrates with a moisture vapor emission rate (MVER) exceeding 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) per 24 hours, using a calcium chloride test (reference ASTM F1869), install *Planiseal*® MB moisture-reduction barrier, followed by the application of *Planibond* EBA with sand broadcast within 24 hours.  
Note: The maximum allowable MVER is always determined by the complete system installed, including primers and sealers.
- *Ultratop* is intended for foot traffic, rubber-wheeled forklift traffic and similar uses. Indentations, gouging and similar damage can be caused by steel-wheeled and small-wheeled (high point-loading) as well as hard-wheeled traffic, or dragging sharp or heavy metal objects over the floor. *Ultratop* is not suitable for such excessive service conditions, heavy manufacturing, chemical or industrial applications; for these applications, use a topping designed for the specific environment.  
Note: To ensure installation success, test a small area for compatibility, bond strength and performance.

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## SUITABLE SUBSTRATES

- All substrates must be structurally sound, dry, stable and cured for at least 28 days.
- Concrete substrates must be free from hydrostatic pressure, and moisture vapor transmission must not exceed 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) per 24 hours. Use a calcium chloride test (reference ASTM F1869) before application.

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

## SURFACE PREPARATION

- Thoroughly clean the surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose toppings, foreign substances and adhesive residue.
- Mechanically profile and prepare concrete surfaces by shotblasting, sandblasting, scarifying or other engineer-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #3 to #4 for minimum profile height.
- Ensure that the substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application.
- Fill deep areas, holes and cracks with appropriate concrete restoration materials.
- Install *Planiseal* MB moisture barrier if the MVER exceeds 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) per 24 hours. Apply a small test area to ensure compatibility with *Planiseal* MB before general installation. Once the barrier is cured, use a MAPEI-approved priming method (such as a *Planibond* EBA sand broadcast) before the application of *Ultratop* (see TDSs of primers for details).
- Always prime the clean, prepared surface with MAPEI's *Planibond* EBA sand broadcast before the application of *Ultratop*.
- When priming with MAPEI's *Planibond* EBA, prime the properly prepared surface at a thickness of 15 to 20 wet mils. Follow immediately with a full sand broadcast (to rejection) with sand of #20 to #40 mesh in size – sorted sand with no fines. After *Planibond* EBA becomes tack-free, vacuum up the excess sand and wait 12 hours to place the *Ultratop*.

## MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

### General mixing:

Into a clean mixing container, pour the required amount of cool, clean potable water. If available water is not cool, chill water to 70°F (21°C). Add *Ultratop* powder while slowly

stirring. Mix water and *Ultratop* powder at a mixing ratio of 4.75 to 5 U.S. qts. (4,50 to 4,73 L) of water per 50-lb. (22,7-kg) bag of *Ultratop*. The mixing ratio must remain consistent, especially when using *Ultratop* Natural Gray or when integral color materials are involved. Do not overwater material.

#### Barrel mixing:

Using the mixing ratio above, mix with a high-speed mixer (at about 1,200 rpm) with an "egg-beater" mixing paddle. Mix to a homogenous, lump-free consistency for about 3 minutes. Do not overmix: Overmixing or moving the mixer up and down during the mixing process could trap air, which could shorten the pot life or cause pinholing during the application and curing.

#### Pump mixing:

*Ultratop* can be mechanically mixed, using the mixing ratio above, with a continuous mixer and pump (with at least 100 ft. [30,5 m] of hose) or a batch mixer and pump (with at least 50 ft. [15,2 m] of hose). The mixer and pump must be in good working condition. Periodic cleaning of pumping equipment is required per the manufacturer's instructions. Be sure to pressure-test the rotor and stator for proper mixing. Use a mesh-screen "sock" at the end of the hose to catch any foreign material that could enter the hopper of the mixer. Apply the mixture to a small test area before general application to ensure a successful installation.

#### Use of integral colors:

Integral colors may be used at the discretion of the owner/installer. However, extreme caution must be exercised to ensure that the type and amount of color does not alter and/or decrease the performance of *Ultratop*. A test pour should be conducted to ensure that performance characteristics – such as set time, flow, water ratio, ease of finishing and curing – are not significantly altered.

## **PRODUCT APPLICATION**

Read all installation instructions thoroughly before installation.

1. Before installation, close all doors and windows and turn off HVAC systems to prevent drafts. Protect areas from direct sunlight.
2. Make sure that substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. In cool conditions, follow ACI cold-weather application guidelines. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
3. Application of *Ultratop* over large areas can be made easier and more efficient by using conventional piston, rotor-stator or underlayment-type pumps. Contact MAPEI's Technical Services Department for recommendations.
4. For best results, work as a team to provide a continuous flow of wet material to maximize the working/finishing time and achieve a uniform finish throughout.
5. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. Quickly pour or pump *Ultratop* onto the properly prepared and primed surface in a ribbon pattern. If a wet edge cannot be maintained, reduce the width of the pour.
6. *Ultratop* has an approximate flow time of 15 minutes at 73°F (23°C), is self-leveling and can be applied from 1/4" to 2" (6 mm to 5 cm) in a single application. Note that temperature and humidity will affect the working time, flowability and setting time. Apply enough material to adequately cover all high spots.

7. Immediately after placing the *Ultratop*, spread the material with a gauge rake. After achieving the desired depth, use a smoother to obtain an even surface. To avoid air entrapment, do not overwork the material. *Ultratop* Natural Gray may be subject to subtle smoothing marks or color differences caused by product dripping from the placement and smoothing equipment. This is a normal aspect of colored materials and can be overcome with proper placement techniques.
8. *Ultratop* quickly hardens within 2 to 3 hours and is ready to accept stains, water-based coatings or sealers within 24 hours. Sealers and coatings protect surfaces from contaminants and soiling, optimizing the surface integrity and aesthetics.

## **CURING AND PROTECTION**

- *Ultratop* is self-curing; do not use a damp-curing method or curing and-sealing compounds.
- During curing, protect *Ultratop* from temperatures above 95°F (35°C) and drafty conditions. Turn off all forced ventilation and radiant-heating systems. Protect for up to 24 hours after final set.
- Avoid walking on the installed surface for at least 2 to 3 hours after installation, depending upon temperature and humidity conditions.
- Protect from traffic, dirt and dust from other trades until the final floor sealer or coating has been installed and completely cured.
- Do not expose *Ultratop* to rolling dynamic loads, such as forklifts or scissor lifts, for at least 48 hours after installation.
- Always apply a protective coating or sealer over *Ultratop*. *Ultratop* can generally be stained, coated or sealed 24 hours after application. Deep applications and cool temperatures may require a longer waiting period before application of subsequent treatments. Follow the recommendations of the stain, coating or sealer manufacturer. Test all surface treatments on a representative sample area, before application, to ensure adequate installation techniques as well as the desired results.

## **CLEANUP**

- Wash hands and tools with water promptly before material hardens.
- Cured material must be mechanically removed.



## Product Performance Properties

Laboratory Tests	Results
Flammability	Flame spread: 0 Fuel contribution: 0 Smoke development: 0
Compressive strength – ASTM C109 (CAN/CSA-A5) at 73°F (23°C) and 50% relative humidity	
1 day	> 2,500 psi (17,2 MPa)
7 days	> 4,400 psi (30,3 MPa)
28 days	> 6,100 psi (42,1 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
1 day	> 650 psi (4,48 MPa)
7 days	> 1,280 psi (8,83 MPa)
28 days	> 1,400 psi (9,66 MPa)

## Shelf Life and Product Characteristics (before mixing)

Shelf life	6 months in an unopened, original bag in a dry, covered and well-ventilated place at 73°F (23°C)
Physical state	Powder
Colors	Natural gray; white

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

## Application Properties

Mixing ratio	4.75 to 5 U.S. qts. (4,50 to 4,73 L) of water per 50 lbs. (22,7 kg) of <i>Ultratop</i>
Density	128 lbs. per cu. ft. (2,06 kg per L)
pH	11
Application temperature range	50°F to 95°F (10°C to 35°C)
Pot life at 73°F (23°C)	20 to 30 minutes
Flow time at 73°F (23°C)	15 minutes
Final set at 73°F (23°C)	2 to 3 hours
Time required before installation of stains, coatings or sealers	Typically 4 to 24 hours depending on the stain/coating/sealer, temperature and humidity

## CSI Division Classifications

Concrete Topping	03 53 00
Cast-in-Place Concrete	03 30 00

## Packaging

Size and Color
Bag: Natural Gray, 50 lbs. (22,7 kg)
Bag: White, 50 lbs. (22,7 kg)

## Approximate Coverage\* per 50 lbs. (22,7 kg)

Yield	0.5 cu. ft. (0,014 m <sup>3</sup> )
Coverage at 1/4" (6 mm) thickness	24 sq. ft. (2,23 m <sup>2</sup> )
Coverage at 1/2" (12 mm) thickness	12 sq. ft. (1,11 m <sup>2</sup> )

\* Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.



**Ultratop®**



Refer to the SDS for specific data related to health and safety as well as product handling.

**STATEMENT OF RESPONSIBILITY**

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith.

**ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

*We proudly support the following industry organizations:*



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